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Manabu Sasamoto

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ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

HENNING, MATTHEW T

ART UNIT

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2131

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/913,595

Applicant(s)

SASAMOTO ET AL.

Examiner

Matthew T. Henning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 47-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 47-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1 This action is in response to the communication filed on 8/15/2007.

2 **DETAILED ACTION**

3 *Continued Examination Under 37 CFR 1.114*

4 A request for continued examination under 37 CFR 1.114, including the fee set forth in
5 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is
6 eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)
7 has been timely paid, the finality of the previous Office action has been withdrawn pursuant to
8 37 CFR 1.114. Applicant's submission filed on 8/15/2007 has been entered.

9 *Response to Arguments*

10 Applicants' arguments filed 8/15/2007 have been fully considered but they are not
11 persuasive.

12 Regarding applicants' argument that the first key information of Chou is stored in the
13 recording medium, the examiner does not find the argument persuasive. Chou teaches in Col. 2
14 Last Paragraph and Col. 3 Paragraph 5 that the transponder which stores the first key information
15 is separate from the recording medium. Further, both Shear and Chandra render obvious to store
16 the key in the recorder instead of in the recording medium. Further still, Chou does not teach
17 away from doing this, but rather teaches an alternative to storing the key in the recorder. As
18 such, the examiner does not find the argument persuasive.

19 Regarding applicants' argument that Chou's keys are not recorder specific, the examiner
20 does not find the argument persuasive. This is due to the same reasoning previously provided,
21 and further because in the newly presented combination, the DK_A is stored in the recorder, and as
22 such is recorder-specific. Additionally, the applicants have stated that Chou's keys are not

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1 apparatus specific because the key “relates to transient items, not fixed items or characteristics of
2 the apparatus”.

3 Regarding applicants’ argument that in view of the teachings of the prior art, that one
4 would “tend more toward teaching recording the keys onto the recording medium”, the examiner
5 does not find the argument persuasive. Shear clearly teaches that storing the keys in the recorder
6 was a known alternative to storing the keys in the recording medium, and as such it would have
7 been obvious to the ordinary person skilled in the art at the time of invention to have
8 interchanged the two known methods of storing the keys. Furthermore, the teachings of Chandra
9 also support the obviousness of storing the keys in the recorder.

10 Regarding applicants’ argument that in the combination the second key information
11 would not be stored in the recording medium, the examiner does not find the argument
12 persuasive. This is because the relied upon second key information is not a key encrypting key,
13 as discussed in Shear, but rather is a frame number of the frame of content which is recorded. It
14 is taught by Chou to record the frame number with the recorded frame. There are no teachings
15 relied upon that would suggest recording the frame number in the recorder. This would make no
16 sense as DVD video contains many frames and storing a random number for each frame of each
17 DVD recorded would be overwhelming at best, and thus one of ordinary skill in the art would
18 not be motivated to store the frame numbers in the recorder instead of the recording medium.

19 Regarding applicants’ argument that in Applicant's invention, transmission data and a
20 recorded data adopt different encryption methods from one another, the examiner does not find
21 the argument persuasive. This limitation has not been claimed and as such has not been further
22 addressed by the examiner.

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1 Claims 1-18, and 47-55 have been examined and 19-46 have been cancelled.

2 All objections and rejections not set forth below have been withdrawn.

3 ***Claim Objections***

4 Claims 1-18, and 47-55 are objected to because of the following informalities: The
5 independent claims recite "and decrypts to an original data", which is awkwardly worded as it
6 lacks a subject for the decrypts. The examiner will assume that it was meant to read "and
7 decrypts the digital signal into an original data". Appropriate correction is required.

8 ***Claim Rejections - 35 USC § 103***

9 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
10 obviousness rejections set forth in this Office action:

11 *A patent may not be obtained though the invention is not identically disclosed or*
12 *described as set forth in section 102 of this title, if the differences between the subject matter*
13 *sought to be patented and the prior art are such that the subject matter as a whole would have*
14 *been obvious at the time the invention was made to a person having ordinary skill in the art to*
15 *which said subject matter pertains. Patentability shall not be negated by the manner in which*
16 *the invention was made.*
17

18 Claims 1-6 49 aueoa are rejected under 35 U.S.C. 103(a) as being unpatentable over
19 Chou (US Patent Number 6,167,136), in view of Muratani et al. (US Patent Number 6,061,451)
20 hereinafter referred to as Muratani, and further in view of Shear et al. (Patent Application
21 Publication 2001/0042043) hereinafter referred to as Shear, and further in view of Wonfor et al.
22 (US Patent Number 6,381,747) hereinafter referred to as Wonfor.

23 Regarding claim 1, Chou disclosed a digital signal recorder for recording a digital signal
24 on a removable recording medium unit including a recording medium (See Chou Abstract and
25 Fig. 2 Data Medium such as DVD's), comprising: first key information generation unit to

1 generate at least one item of first key information (See Chou Col. 6 Lines 34-38 DK_A); second
2 key information generation unit to generate at least one item of second key information (See
3 Chou Col. 6 Lines 39-43 and Col. 7 Paragraph 1; i); key generation unit which receives said
4 both of said first and second key information generated by said first key information generation
5 unit and said second key information generation unit and performs a prescribed arithmetic
6 operation thereon to generate a key (See Chou Col. 6 Lines 44-58); an encryption circuit which
7 receives said key and an original data and encrypts said original data with said key (See Chou
8 Col. 6 Lines 59-65), and outputs the resulting encrypted digital signal in a case where said digital
9 signal needs copy protection (See Chou Col. 6 Lines 59-65); and a recording circuit which
10 records, onto said removable recording medium unit, at least one of said at least one item of
11 second key information generated by said second key information generation unit, together with
12 said encrypted digital signal in a case where said digital signal needs copy protection (See Chou
13 Col. 6 Line 66 – Col. 7 Line 5), but Chou failed to disclose a decrypting circuit which receives a
14 digital signal encrypted for transmission and decrypts the digital signal into the original data,
15 recording said digital signal without encryption in a case where said digital signal needs no copy
16 protection, or that the first key information is recorder-specific key information wherein said first
17 key information as said recorder specific key information is not recorded on any part of said
18 removable recording medium unit. However, Chou did disclose that the recording medium
19 could be a DVD, and that the recording medium is separate from the chip disclosed as storing the
20 first key information (DK_A) (See Chou Fig. 2, Fig. 4 and Col. 2 Last Paragraph).

21 Muratani teaches a system in which a network scrambles video data for transmission, and
22 transmits the data to a receiver, which descrambles the scrambled video data to get video data

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1 (original data) which is then recorded onto DVD for later viewing (See Muratani Col. 17
2 Paragraphs 2-5).

3 Shear teaches a that in a system similar to the system of Chou, alternative to storing key
4 encrypting keys on a recording medium, the key encrypting keys can be stored in the content
5 player (See Shear Paragraphs 0218-0219).

6 Wonfor teaches that not all data needs to be copy protected and teaches a system that
7 turns off copy protection when it is not needed (See Wonfor Col. 2 Line 66 – Col. 3 Line 7 and
8 Col. 12 Table 2).

9 It would have been obvious to the ordinary person skilled in the art at the time of
10 invention to employ the teachings of Muratani in the DVD copy protection system of Chou, by
11 using the system of Chou to encrypt and protect the digital data recorded to DVD by the system
12 of Muratani. This would have been obvious because the ordinary person skilled in the art would
13 have been motivated to protect the recorded digital data from being illicitly copied.

14 It further would have been obvious to the ordinary person skilled in the art at the time of
15 invention to employ the teachings of Shear in the recording/playback device of Chou and
16 Muratani, by storing the secret deciphering key (DK_A) in a secure memory of the optical disk
17 player. This would have been obvious because the ordinary person skilled in the art would have
18 been motivated to restrict playback to only those devices which contain the correct deciphering
19 key.

20 It further would have been obvious to the ordinary person skilled in the art at the time of
21 invention to employ the teachings of Wonfor in the copy protection system of Chou by only
22 scrambling the data that needed copy protection and not scrambling the data that didn't need

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1 copy protection. This would have been obvious because the ordinary person would have been
2 motivated to prevent unnecessary processing to copy protect data that did not need it.

3 Regarding claim 49, Chou disclosed a digital signal recorder for recording a digital signal
4 on a removable recording medium unit including a recording medium (See Chou Abstract and
5 Fig. 2 Data Medium such as DVD's), comprising: first key information generation unit to
6 generate at least one item of first key information (See Chou Col. 6 Lines 34-38 DK_A); second
7 key information generation unit to generate at least one item of second key information (See
8 Chou Col. 6 Lines 39-43 and Col. 7 Paragraph 1; i); key generation unit which receives said
9 both of said first and second key information generated by said first key information generation
10 unit and said second key information generation unit and performs a prescribed arithmetic
11 operation thereon to generate a key (See Chou Col. 6 Lines 44-58); an encryption circuit which
12 receives said key and an original data and encrypts said original data with said key (See Chou
13 Col. 6 Lines 59-65), and outputs the resulting encrypted digital signal in a case where said digital
14 signal needs copy protection (See Chou Col. 6 Lines 59-65); and a recording circuit which
15 records, onto said removable recording medium unit, at least one of said at least one item of
16 second key information generated by said second key information generation unit, together with
17 said encrypted digital signal in a case where said digital signal needs copy protection (See Chou
18 Col. 6 Line 66 – Col. 7 Line 5), but Chou failed to disclose a decrypting circuit which receives a
19 digital signal encrypted for transmission and decrypts the digital signal into the original data,
20 recording said digital signal without encryption in a case where said digital signal needs no copy
21 protection, or that the first key information is recorder-specific key information wherein said first
22 key information as said recorder specific key information is not carried with any part of the

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1 removable recording medium unit. However, Chou did disclose that the recording medium
2 could be a DVD, and that the recording medium is separate from the chip disclosed as storing the
3 first key information (DK_A) (See Chou Fig. 2, Fig. 4 and Col. 2 Last Paragraph).

4 Muratani teaches a system in which a network scrambles video data for transmission, and
5 transmits the data to a receiver, which descrambles the scrambled video data to get video data
6 (original data) which is then recorded onto DVD for later viewing (See Muratani Col. 17
7 Paragraphs 2-5).

8 Shear teaches a that in a system similar to the system of Chou, alternative to storing key
9 encrypting keys on a recording medium, the key encrypting keys can be stored in the content
10 player (See Shear Paragraphs 0218-0219).

11 Wonfor teaches that not all data needs to be copy protected and teaches a system that
12 turns off copy protection when it is not needed (See Wonfor Col. 2 Line 66 – Col. 3 Line 7 and
13 Col. 12 Table 2).

14 It would have been obvious to the ordinary person skilled in the art at the time of
15 invention to employ the teachings of Muratani in the DVD copy protection system of Chou, by
16 using the system of Chou to encrypt and protect the digital data recorded to DVD by the system
17 of Muratani. This would have been obvious because the ordinary person skilled in the art would
18 have been motivated to protect the recorded digital data from being illicitly copied.

19 It further would have been obvious to the ordinary person skilled in the art at the time of
20 invention to employ the teachings of Shear in the recording/playback device of Chou and
21 Muratani, by storing the secret deciphering key (DK_A) in a secure memory of the optical disk
22 player. This would have been obvious because the ordinary person skilled in the art would have

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1 been motivated to restrict playback to only those devices which contain the correct deciphering
2 key.

3 It further would have been obvious to the ordinary person skilled in the art at the time of
4 invention to employ the teachings of Wonfor in the copy protection system of Chou by only
5 scrambling the data that needed copy protection and not scrambling the data that didn't need
6 copy protection. This would have been obvious because the ordinary person would have been
7 motivated to prevent unnecessary processing to copy protect data that did not need it.

8 Regarding claim 2, Chou, Muratani, Shear, and Wonfor disclosed that said second key
9 information generation unit generates said second key information by using a random number
10 generator (See Chou Col. 7 Paragraph 1), and said digital signal has a packet format of a
11 prescribed length (See Chou Col. 6 Lines 17-23).

12 Regarding claim 3, Chou, Muratani, Shear, and Wonfor disclosed that said second key
13 information generation unit generates said second key information by using a random number
14 generator (See Chou Col. 7 Paragraph 1), the second key information generation unit has a
15 function for updating said at least one item of said second key information at a prescribed time
16 interval (See Chou Col. 5 Lines 34-39, Col. 6 Lines 59-61 and 7 Lines 2-5); and said recording
17 circuit has a function for recording information capable of identifying timing when said second
18 key information generation unit updates said key information (See Chou Col. 5 Lines 43-48).

19 Regarding claim 4, Chou, Muratani, Shear, and Wonfor disclosed that said digital signal
20 has a packet format of a prescribed length (See Chou Col. 5 Lines 34-39); and said recording
21 circuit has a function for adding identifying information capable of identifying timing where said
22 second key information generation unit updates said second key information, and where said

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1 identifying information is added to packets of said digital signal and recorded on said removable
2 recording medium unit (See Chou Col. 5 Paragraph 4 and Col. 6 Paragraph 5 and Col. 7
3 Paragraph 1).

4 Regarding claim 5, Chou, Muratani, Shear, and Wonfor disclosed that said second key
5 information generation unit generates said second key information by using a random number
6 generator (See Chou Col. 7 Paragraph 1), said encryption circuit has a function capable of
7 selecting between a first function for encrypting and outputting said digital signal, and a second
8 function for outputting said digital signal as is without encryption (See the rejection of claim 1
9 above); and said recording circuit has a function for recording, in a prescribed area on said
10 removable recording medium unit, encryption flag information indicating whether or not said
11 digital signal is encrypted, and, when not encrypted, not recording said second key information
12 (See Wonfor Col. 8 Lines 17-23 and Table 2).

13 Regarding claim 6, Chou, Muratani, Shear, and Wonfor disclosed that said digital signal
14 has a packet format of a prescribed length (See Chou Col. 5 Lines 34-39); and said recording
15 circuit has a function for adding encryption flag information indicating whether or not said
16 digital signal is encrypted, to packets of said digital signal, and a function for recording on said
17 removable recording medium unit (See Wonfor Col. 8 Lines 17-23 and Table 2).

18
19 Claims 7-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over
20 the combination of Chou, Muratani, Shear, and Wonfor, as applied to claim 1 above, and further
21 in view of Kim (US Patent Number 6,466,733).

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1 Regarding claim 7, the combination of Chou, Muratani, Shear, and Wonfor disclosed a
2 digital signal recorder in which a digital signal of a packet format of a prescribed length is input
3 comprising: a decrypting circuit which receives a digital signal encrypted for transmission and
4 decrypts to an original signal; first key information generation unit to generate at least one item
5 of first key information which is recorder specific key information; second key information
6 generation unit to generate at least one item of second key information; key generation unit to
7 receive both of said first and second key information generated by said first key information
8 generation unit and said second key information generation unit, and perform a prescribed
9 arithmetic operation to generate a key; an encryption circuit which receives said key and said
10 original signal, encrypts said original signal with said key and outputs the resulting encrypted
11 digital signal in a case where said digital signal needs copy protection; and a recording circuit
12 which records, onto said removable recording medium unit (data medium), at least one of said at
13 least on item of second key information generated by said second key information generation
14 unit, together with said encrypted digital signal in a case where said digital signal needs copy
15 protection, and records said digital signal without encryption in a case where said digital signal
16 needs no copy protection, and wherein said first key information as said recorder-specific key
17 information, is not recorded on any part of said removable recording medium unit (See rejection
18 of claims 1-2 above), but failed to disclose dividing the signal into other prescribed lengths; a
19 synchronization signal, recording information signal, auxiliary information signal, and first error
20 correction code are added thereto to define a block format; one track is formed by a prescribed
21 number of blocks thus made; a second error correction code is added in units of n tracks (where n
22 is an integer 1 or greater); said second error correction code is also divided and said first error

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1 correction code is added thereto to constitute a block format; and said tracks are recorded on said
2 removable recording medium unit.

3 Kim teaches a method for recording a digital transport stream by creating tracks from
4 video packets and providing three error correction codes to each track (See Kim Figs. 2, 3, and 5
5 and Col. 6 Paragraphs 4-7 and Col. 7 Paragraphs 3-4).

6 It would have been obvious to the ordinary person skilled in the art at the time of
7 invention to employ the teachings of Kim in the recorder of Chou, Muratani, Shear, and Wonfor
8 by storing the encrypted packets in the ECC block format of Kim. This would have been
9 obvious because the ordinary person skilled in the art would have been motivated to protect the
10 stored programs against errors.

11 Regarding claim 8, see the rejection of claim 1 above wherein it would have been
12 obvious to store the frame identification number in an auxiliary storage area because the frame
13 identification number is auxiliary data.

14 Regarding claim 9, see the rejection of claim 3 above.

15 Regarding claim 10, Chou, Muratani, Shear, Wonfor, and Kim disclosed that timing
16 information was included in the stored block data (see Kim Col. 5 Paragraph 6).

17 Regarding claim 11, Chou, Muratani, Shear, Wonfor, and Kim disclosed that timing
18 information was stored in an auxiliary section (See Kim Col. 6 Paragraph 4 and Col. 7 Paragraph
19 3).

20 Regarding claim 12, Chou, Muratani, Shear, Wonfor, and Kim disclosed adding timing
21 information to the blocks identifying the timing of the packets (See Kim Col. 2 Lines 54-57)

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1 Regarding claim 13, Chou, Muratani, Shear, Wonfor, and Kim disclosed that the frame
2 identification number was updated every frame and there was at least one frame per track (See
3 Chou Col. 5 Paragraph 4). Therefore, the frame identification number was updated for every
4 track.

5 Regarding claim 14, see the rejection of claim 7 above.

6 Regarding claim 15-17, see the rejection of claims 5-6 above.

7 Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination
8 of Chou, Muratani, Shear, Wonfor, and Kim, as applied to claim 14 above, and further in view of
9 Yuval et al. (US Patent Number 5,586,186) hereinafter referred to as Yuval.

10 The combination of Chou, Muratani, Shear, Wonfor, and Kim disclosed encrypting
11 certain data and not other data, (See the rejection of claim 7 above), but failed to disclose
12 switching to determine whether or not to encrypt every n tracks.

13 Yuval teaches that for efficiency, only every nth track should be encrypted (See Yuval
14 Col. 6 Lines 13-23).

15 It would have been obvious to the ordinary person skilled in the art at the time of
16 invention to employ the teachings of Yuval in the copy protection system of Chou, Muratani,
17 Shear, Wonfor, and Kim by encrypting every nth track. This would have been obvious because
18 the ordinary person skilled in the art would have been motivated to make the copy protection
19 system more efficient in both the encryption and decryption.

20 Claims 47, 50-51, and 54-55 are rejected under 35 U.S.C. 103(a) as being unpatentable
21 over the combination of Chou, Muratani, Wonfor, and Shear as applied to claim 49 above, and

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1 further in view of Chandra et al. (US Patent Number 4,814,140) hereinafter referred to as
2 Chandra.

3 Chou, Muratani, Wonfor, and Shear taught a digital signal recorder for recording a digital
4 signal on a removable recording medium unit including a recording medium, comprising: first
5 key information generation unit to generate at least one item of first key information which is
6 apparatus-specific key information; second key information generation unit to generate at least
7 one item of second key information; key generation unit which receives both of said first and
8 second key information generated by said first key information generation unit and said second
9 key information generation unit, and performs a prescribed arithmetic operation thereon to
10 generate a key; an encrypting circuit which receives said key and said digital signal and encrypts
11 said digital signal with said key, and outputs the resulting encrypted digital signal, in a case
12 where said digital signal needs copy protection; and a recording circuit which records, onto said
13 removable recording medium unit, at least one of said at least one item of second key
14 information generated by said second key information generation unit, together with said
15 encrypted digital signal in a case where said digital signal needs copy protection, and records
16 said digital signal without encryption in a case where said digital signal needs no copy
17 protection, wherein a copy of said first key information is not carried with any part of the
18 removable recording medium unit (See the rejection of claim 49 above), but failed to disclose
19 pre-storing the first key information in said recorder at the time the recorder was manufactured.

20 Chandra teaches that in order to provide an apparatus with the right to execute encrypted
21 content, the decryptor can be provided with the key decryption key during manufacture (See
22 Chandra Col. 7 Lines 7-13).

1 It would have been obvious to the ordinary person skilled in the art at the time of
2 invention to employ the teachings of Chandra in the encrypted content system by providing the
3 key encryption/decryption key to the player during manufacture. This would have been obvious
4 because the ordinary person skilled in the art would have been motivated to provide the player
5 with the right to execute the content.

6 Regarding claims 50-51 and 54-55, Chou, Muratani, Wonfor, Shear, and Chandra
7 disclosed that said first key information is recorder-specific key information, in that said first key
8 information is derived from an attribute of said digital signal recorder (See the teachings of
9 Chandra, wherein the first key information is retrieved from the recorder [derived from an
10 attribute of the recorder]), and is unrelated to any attribute of any part of said removable
11 recording medium unit (See the rejection of claim 47 above wherein DK_A is pre-stored in the
12 recorder prior to recording to any medium).

13 Claim 48, and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over the
14 combination of Chou, Muratani, Shear, Wonfor, and Kim as applied to claim 7 above, and
15 further in view of Chandra.

16 Chou, Muratani, Shear, Wonfor, and Kim taught a digital signal recorder for recording a
17 digital signal on a removable recording medium unit including a recording medium, comprising:
18 first key information generation unit to generate at least one item of first key information which
19 is apparatus-specific key information; second key information generation unit to generate at least
20 one item of second key information; key generation unit which receives both of said first and
21 second key information generated by said first key information generation unit and said second
22 key information generation unit, and performs a prescribed arithmetic operation thereon to

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1 generate a key; an encrypting circuit which receives said key and said digital signal and encrypts
2 said digital signal with said key, and outputs the resulting encrypted digital signal, in a case
3 where said digital signal needs copy protection; and a recording circuit which records, onto said
4 removable recording medium unit, at least one of said at least one item of second key
5 information generated by said second key information generation unit, together with said
6 encrypted digital signal in a case where said digital signal needs copy protection, and records
7 said digital signal without encryption in a case where said digital signal needs no copy
8 protection, wherein a copy of said first key information is not carried with any part of the
9 removable recording medium unit (See the rejection of claim 7 above), but failed to disclose pre-
10 storing the first key information in said recorder at the time the recorder was manufactured.

11 Chandra teaches that in order to provide an apparatus with the right to execute encrypted
12 content, the decryptor can be provided with the key decryption key during manufacture (See
13 Chandra Col. 7 Lines 7-13).

14 It would have been obvious to the ordinary person skilled in the art at the time of
15 invention to employ the teachings of Chandra in the encrypted content system by providing the
16 key encryption/decryption key to the player during manufacture. This would have been obvious
17 because the ordinary person skilled in the art would have been motivated to provide the player
18 with the right to execute the content.

19 Regarding claims 52-53, Chou, Muratani, Wonfor, Shear, Kim and Chandra disclosed
20 that said first key information is recorder-specific key information, in that said first key
21 information is derived from an attribute of said digital signal recorder (See the teachings of
22 Chandra, wherein the first key information is retrieved from the recorder [derived from an

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1 attribute of the recorder]), and is unrelated to any attribute of any part of said removable
2 recording medium unit (See the rejection of claim 47 above wherein DK_A is pre-stored in the
3 recorder prior to recording to any medium).

4 *Conclusion*

5 Claims 1-18, and 47-55 have been rejected.

6 The prior art made of record and not relied upon is considered pertinent to applicant's
7 disclosure.

8 Pexravian et al. (US Patent Number 6,363,154) teaches a communication system in
9 which a secret key and a random number are hashed to create a working key which is used to
10 encrypt data.

11 Ishiguro (US Patent Number 5,796,839) teaches a system which uses a working key to
12 encrypt data to be stored on a recording medium in such a way that without knowledge of the
13 master key the data is not recoverable in any way other than brute force.

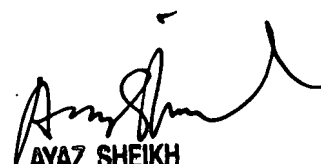
14 Any inquiry concerning this communication or earlier communications from the
15 examiner should be directed to 11 whose telephone number is (571) 272-3790. The examiner
16 can normally be reached on M-F 8-4.

17 If attempts to reach the examiner by telephone are unsuccessful, the examiner's
18 supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the
19 organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2131

1 Information regarding the status of an application may be obtained from the Patent
2 Application Information Retrieval (PAIR) system. Status information for published applications
3 may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
4 applications is available through Private PAIR only. For more information about the PAIR
5 system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR
6 system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would
7 like assistance from a USPTO Customer Service Representative or access to the automated
8 information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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15 /Matthew Henning/
16 Assistant Examiner
17 Art Unit 2131
18 10/23/2007


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100